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EXAMINER

CALANDRA, ANTHONY J

ART UNIT

PAPER NUMBER

1791

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/564,265	<b>Applicant(s)</b> KOSO, ARTO
	<b>Examiner</b> ANTHONY J. CALANDRA	<b>Art Unit</b> 1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 8 December 2008 and 9 January 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 22-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/05/2008</u>  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 1791

***Detailed Office Action***

1. The communications dated 12/08/2008 and 1/9/2009 have been entered and fully considered.
2. Claims 1-21 have been canceled. Claims 22-39 are newly presented before the examiner. Claims 22-39 are currently pending.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 22-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent #5,219,472 ELONEN et al., hereinafter ELONEN, in view of Chemical Pulping by GULLICHSEN.

Art Unit: 1791

As for claim 22, 30, 31, and 39, ELONEN discloses a method wherein pulp from oxygen treatment is sent [column 1 lines 30-40 and figure 2 (2)] to a degassing medium consistency pulp by way of a degassing MC pump [column 1 lines 59-61] wherein the pulp is degassed.

Examiner recognizes the applicant's argument that ELONEN does not teach an MC pump followed screen and only teaches an AHLSTAR pump which runs at 6-8% . The examiner argues that ELONEN states that a *degassing/deaerating pump* is used preceding the screen plant [column 4 lines 55-58]. ELONEN states that '*throughout the specification*' a dearaeting pump' or 'degassing pump' is used to mean a centrifugal pump. ELONEN then states that both MC pumps and AHLSTAR pumps are suitable pumps [column 1 lines 48-68].

Alternatively, it would have been obvious to use a MC pump instead of an AHLSTAR pump. If the teaching of ELONEN of a degassing pump before screening was limited to only an AHLSTAR pump at 6-8% consistency, as alleged by the applicant, it would have still been at least obvious to a person of ordinary skill in the art to substitute a MC pump at 8-15% consistency. A person of ordinary skill in the art would expect that an MC pump could operate at higher consistencies. A person of ordinary skill in the art would further expect that if pulp could be diluted to screening consistency from 6-8% consistency it could also be diluted to screening consistency from 8-15% consistency. It is *prima facie* obvious to substitute one known component for another known component intended for the same purpose with the expectation of success. In the instant case the substitution of an MC pump for an AHLSTAR pump would be expected to degas and pump the pulp.

Art Unit: 1791

Wherein the pulp is diluted by water from pump (14) through line 16 [Figure 2] and then screened in screening apparatus (4). Since the pulp is diluted by water subsequent to the MC degassing pump, it has a lower consistency [column 4 lines 50 and 51].

ELONEN does not explicitly disclose the consistency of the pulp in the screening room. GULLICHSEN discloses that a typical screen room is fed at 2% consistency [pg. A128]. At the time of the invention it would have been *prima facie* obvious to run the screen room of ELONEN at the consistency taught by GULLICHSEN which would require dilution by pump 14 to 2% prior to screening. A person of ordinary skill in the art would be motivated to run a well known process such as screening at a typical well known consistency for screening devices.

Finally, GULLICHSEN shows a typical screen room balance [pg. A128 Figure 117]. GULLICHSEN shows that the feed consistency prior to the screen room 12%, the pulp is then diluted by a subsequent stream. This gives further evidence that it is known to those of ordinary skill in the art to pump stock at medium consistency prior to dilution to a screening consistency.

As for claims 23 and 34, ELONEN discloses oxygen bleaching prior to screening the pulp [column 1 lines 20-35]. The examiner has interpreted oxygen bleaching as oxygen delignification process. After the oxygen treatment the pulp is degassed by a degassing pump prior to screening.

As for claims 24, 25, and 32-33 ELONEN does not disclose washing following the oxygen. GULLICHSEN discloses that washing can follow after oxygen delignification [Figure 40]. GULLICHSEN teaches a drum displacement washer. At the time of the invention it would have been obvious to a person of ordinary skill in the art to have a washer after the oxygen treatment stage of ELONEN prior to screening. A person of ordinary skill in the art would be

Art Unit: 1791

motivated to have a washer as taught by GULLICHSEN to remove COD, and used chemicals from the pulp [pg. A637 section 2.1.3]. GULLICHSEN further shows that it is a known combination in the art to have a screen room following a drum displacement washer [pg. A128 Figure 16].

As for claims 26 and 29, ELONEN discloses a tower but does not disclose a tower with a bottom scraper and dilution [Figure 2]. GULLICHSEN discloses that a tower with a bottom scraper and dilution can be paired with an MC pump [pg. A622 – A623 Figures 14 and 16]. At the time of the invention it would have been *prima facie* obvious to use the tower of SMOOK prior to the MC pump of ELONEN instead of the tower originally disclosed. A person of ordinary skill in the art would be motivated to do so to better control the flow of pulp [pg. A622]. the scraper allows for an even discharge of pulp [pg. A622].

As for claims 27, 28, 35, and 36 ELONEN teaches or at least suggests an MC pump. An MC pump performs gas separation using a turbulence forming motor.

As for claim 37, ELONEN does not explicitly disclose how the water is mixed with the pulp. However, it is the examiners position that there are limited options to try from to mix the pulp and a rotary mixing device or a static device as these are the two known types of mixing unit operations in the pulp and paper industry. Alternatively GULLICHSEN teaches rotating based mixers for mixing in fluids after an MC pump [pg. A626-A627]. At the time of the invention it would have been *prima facie* obvious to use the known medium consistency mixing technology of GULLICHSEN in the water/pulp mixing operation of ELONEN. It is *prima facie* obvious use a known device to improve technique to improve similar devices, absent evidence of unexpected results. In the instant case the required mixing of ELONEN is performed with the

Art Unit: 1791

known mixer of GULLICHSEN. A person of ordinary skill in the art would expect the pulp solution to be mixed. Alternatively, a person of ordinary skill in the art would be motivated to use the mixer of GULLICHSEN because it provides good homogenization to the pulp suspension [pg. A626].

Additionally, if no special mixer was used in the process of ELONEN and only the liquid pipe was connected to the stock pipe this could be considered a static mixer as the pulp will mix with the added water along the length of the static pipe.

As for claim 38, ELONEN discloses a centrifugal pump for supplying dilution water [Figure 2].

### ***Response to Arguments***

4. Applicant canceled the original claims 1-21. Applicant presents new claims 22-39. The applicants arguments towards new claims 22-39 are convincing in part.

*ELONEN*

*Applicant argues that the office action cited the MC pump from column 1 and then used figure 2 which does not use an MC pump.*

Figure 2 is referenced in column 4 and states that the pumps are preferably centrifugal pumps degassing pumps. ELONEN does not limit the pump type. ELONEN states that suitable pumps

Art Unit: 1791

for degassing are both MC pumps and AHLSTAR pumps. Therefore it is the examiners position that ELONEN teaches all the features of the cancelled claim.

*Applicant argues that the pulp being pumped must be 6-8% consistency because an AHLSTAR pump is being used.*

It is the examiners position that a MC pump could also be used in this position as ELONEN states that both are suitable pumps. Further 8%-15% consistency pulp can be considered medium consistency pulp. 8% is part of the range that the applicant argues that ELONEN operates at. The applicant fails to give any specific definition of medium consistency.

*Applicant argues that ELONEN does not state where in the screen plant the liquid water is introduced. Applicant states that the screen plant has several conduits and individual screen apparatuses.*

Applicant does not claim that it must be diluted prior to the *first* screening stage. Therefore if the pulp was diluted before a second stage this would also be prior to screening.

Even if the applicant wrote the claim in this manner it would not overcome ELONEN. ELONEN was previously combined with GULLICHSEN to show that screening occurs at 3% consistency [see NF office action for claims 6 and 7]. Therefore for screening to occur the pulp must be diluted to a consistency of 2%.



Art Unit: 1791

*GULLICHSEN*

*Applicant argues that figure 14 does not show a dilution or degassing point.*

Figure 14 states that the pump has a MC pump with degassing. As can be seen on the figure 14 there is a vacuum pump connected to the MC pump. This can also be shown in the PID diagram on Figure 15. Dilution which decreases chemical consistency occurs in the AHL MIX located after the MC pump. Additionally there will be at least some dilution of the pulp from seal water which is necessarily used in the MC pump for proper operation.

*Applicant argues that gases do not lower consistency therefore the rejection is improper.*

GULLICHSEN does teach liquids and therefore at least teaches an embodiment where the consistency is lowered. GULLICHSEN shows oxygen delignification with a steam spool which introduces steam which condenses into liquid water. Also the addition of oxygen delignification chemicals (such as caustic or oxidized white liquor) would decrease the consistency of the pulp after MC pumping.

Additionally there will be at least some dilution of the pulp from seal water which is necessarily used in the MC pump for proper operation.

*BOWATER*

Art Unit: 1791

*Applicant argues that BOWATER is not varied art as it fails to show first use or sale one year prior to the priority date of September 2003.*

The application has two priority dates, the foreign priority date of 8/18/2003 and the PCT filing date of 7/5/2004. For purpose of 102(b) art statutory bar the date that is used is the PCT filing date not the foreign priority date. Therefore the statutory bar date that an in use date must be prior to 7/5/2003. On page 5 of the disclosing document entitled project information the order date is defined as November 2000.

*Applicant argues that BOWATER does not teach the new claims 22 and 23.*

The examiner agrees that new claim 23 is not taught by BOWATER.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 1791

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. CALANDRA whose telephone number is (571) 270-5124. The examiner can normally be reached on Monday through Thursday, 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AJC/

/Eric Hug/  
Primary Examiner, Art Unit 1791